

REVISION OF THE GENUS *ACROTRICHE* R.BR. (EPACRIDACEAE).

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(Eighty-two Text-figures.)

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Synopsis.

A key for the determination of twelve species of *Acrotriche* including two new species, *A. rigida* and *A. halmaturina*, is given. These species are distributed throughout Australia, along the coast and adjacent ranges from Queensland to Tasmania and south-west Western Australia, the greatest density of species being in the south-eastern corner of South Australia.

The taxonomic history, variations and economic importance of this Australian genus are briefly discussed.

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INTRODUCTION.

General.

The genus *Acrotriche* was described by Robert Brown (1810). He included *Styphelia cordata* which had previously been described by Labillardière (1804). Since then the number of species accepted as valid has varied from botanist to botanist. A total of sixteen species has been described, two of which, *Acrotriche aristata* and *A. latifolia*, have since been reduced to synonymy under *Leucopogon cuspidatus* and *L. cordifolius* respectively. Ten of the described species are recognized by the writer as distinct taxonomic groups; the remaining four species (*A. ovalifolia*, *A. subcordata*, *A. manglesii*, *A. ramiflora*) have been reduced to synonymy. In addition two new groups have been accorded specific rank.

The generic name is derived from a combination of two Greek words, *akron* and *thria*, *triklos*, referring to the chief characteristic of the genus: an erect tuft of hairs near the apex of the corolla-lobes. These hairs easily distinguish *Acrotriche* from the two closely allied genera, *Leucopogon* R.Br., whose corolla-lobes are bearded, and *Monotoca* R.Br., where the corolla-lobes are naked.

The genus is distributed throughout Australia along the coast and adjacent ranges from Queensland to Tasmania and Western Australia, the greatest density of species being in the south-eastern corner of South Australia. Within this range the habitat varies from areas of high to low rainfall; the plants are usually on poor soils.

Acrotriche appears to be unimportant economically, though the fruits of *A. depressa* are used for making jams and jellies by those sufficiently energetic to collect them. It has been reported from some areas that *A. serrulata* is often eaten by sheep, but whether this is under normal or drought conditions is unknown. The author considers that the typical heath characteristics of the leaves of most species would provide a natural deterrent to their being eaten.

Nomenclature.

No type material, other than photographs, has been available, with the exception of the two new species. The comparison of type photographs with the written description has been the basis of name determination; these photographs have been lodged at the National Herbarium, Sydney. The following type definitions have been used in this paper: A *holotype* is that single specimen or other element used as a basis for the description by the author and/or designated by him as the nomenclatural type or a specimen interpreted by the author as belonging to the taxon described by himself. A *paratype* is a specimen cited with the original description other than the

holotype or isotype(s). *Topotype*: A specimen from a type locality agreeing with the type. *Lectotype*: A specimen or other element selected from the original material to serve as nomenclatural type when the holotype was not designated at the time of publication or for so long as it is missing.

Evaluation of Taxonomic Characters.

The taxonomic value of morphological characters varies from character to character. An assessment of this value is made below.

(a) *Vegetative Characters.*

Habit.—The variation in habit may be used to distinguish certain species, e.g., *A. aggregata* and *A. prostrata*, yet in others it is of slight or no value, e.g., *A. serrulata* and *A. affinis*, where the habit is very similar.

Leaves.—The leaves have again (Paterson, 1957) proved to be the most effective character for diagnosis. No two species have identical leaves, although at first some may appear identical; however, upon closer observation differences are apparent. Where infraspecific variation in leaf shape occurs, it does not influence interspecific differences. Leaf pubescence in connection with thickness of leaf and leaf margins is important. The number of veins does not appear, in general, to be of specific importance, but rather to be proportional to the width of the particular leaf.

(b) *Floral Characters.*

Inflorescence.—The position and length of the spike, together with the number of flowers on the spike, can in some cases be characteristic of a species, e.g., *A. fasciculiflora*, but its real value lies in breaking up the genus into groups.

Floral Bracteoles and Sepals.—Of slight value when considered alone. Usually when the bracteoles and calyx of different species vary in shape and degree of pubescence, there are also other and more objective characters present.

Corolla.—Variation in colour of the corolla-tube can be a guide in some cases. The manner in which the hairs at the throat are borne, whether on a cushion of tissue or not, assists in breaking up the genus into smaller groups.

Stamens.—Size, shape and colour show insufficient variation between the species to be used in identification.

Ovary.—Anatomically, the structure of the ovary distinguishes each species. Morphologically, the ovary is important; the degree of pubescence and the number of loculi when used collectively enable a rough determination to be made. Where doubt exists after leaf comparison, the ovary may be used for confirmation.

Style and Stigma.—The variation which exists is of no value in identification.

Fruit.—The shape, colour, degree of pubescence, together with the general structure of the mesocarp, may be used to distinguish each species. The fruits show the most distinctive characters of the generative parts.

Specimens Examined.—More than 100 specimens have been examined since February, 1958, and it is from these specimens in conjunction with written descriptions that the data in this paper have been compiled. Previously some 500 had been examined, but unfortunately these were lost when the Botany Department of the University of New England, Armidale, was destroyed by fire. All species have been redescribed and the specimens examined are all cited under the appropriate species. The abbreviations used for their location follow "Index Herbariorum Part I, Ed. 4" with the exception of the following: INGRAM, Collection of C. K. Ingram, Bathurst; MELU, University of Melbourne, Melbourne; NSWU, University of New South Wales, Sydney.

TAXONOMY.

Generic Description.

ACROTRICHE R.Br., *Prodromus*, 547 (1810), Epacridaceae.

Synonymy: *Froebelia* Regel, *Gartnfl.*, i: 164, t.18 (1852).

Low shrubs, intricately branched. *Leaves* crowded, shortly petiolate, rigid. *Flowers* small in sessile or shortly pedunculate clusters or spikes, axillary or on the old wood below the leaves; each flower sessile within a small subtending bract and two bracteoles.

Calyx 5-parted, imbricate. *Sepals* ovate-lanceolate, obtuse. *Corolla*-tube funnel-shaped or bulbous, usually exceeding the calyx; lobes valvate in bud, spreading with a tuft of hairs on the inside near the tip; the hairs closing the throat may arise direct from the epidermal cells or from a scale or cushion. *Stamens* short filaments inserted at summit of corolla-tube between the bundles of hairs; anthers dorsifixed, enclosed at first, later hanging down on the outside between the lobes. *Ovary* 2-10-celled with a single anatropous ovule in each cell, a short nectary envelopes the proximal half. *Style* with a small terminal stigma. *Fruit* drupe, globular or depressed, mesocarp in some species slightly pulpy, endocarp hard. Twelve species, all Australian.

Lectotype: Acrotriche divaricata R.Br.

Key to the Species.

- A. Flowers in clusters or in short spikes.
 B. Leaves pungent pointed.
 C. Leaves flat, margins not recurved.
 D. Leaves with microscopic hairs on lower surface; ovary usually 6-10-celled 2. *A. aggregata*.
 DD. Leaves with undersurfaces smooth or with very small protuberances; ovary usually 5-celled 1. *A. divaricata*.
 CC. Leaves shallow or deeply grooved and/or margins recurved.
 E. Shrubs with adventitious roots, usually less than 6" in height 6. *A. prostrata*.
 EE. Shrubs without adventitious roots, usually greater than 6" in height.
 F. Leaves ovate-lanceolate 7. *A. patula*.
 FF. Leaves linear-lanceolate or lanceolate.
 G. Leaf margins recurved.
 H. Leaves lanceolate, 5-12 × 2-5 mm. Flowers in globular clusters on the stem at the ground 11. *A. halmaturina*.
 HH. Leaves linear-lanceolate, 7-5-11 × 1-1.5 mm. Flowers in spikes on old wood 5. *A. rigida*.
 GG. Leaf margins not recurved.
 J. Leaves with deep grooves between the veins, thick, rigid, lanceolate, 3-8 × 0.7-2 mm. ... 4. *A. affinis*.
 JJ. Leaves with shallow wide grooves between the veins, thinner, not rigid, linear-lanceolate, 4-10 × 0.6-2 mm. 3. *A. serrulata*.
 BB. Leaves with blunt callous point not pungent 8. *A. cordata*.
 AA. Flowers in long open spikes.
 K. Leaves under 2-5-3 mm. long 9. *A. depressa*.
 KK. Leaves more than 6-11 mm. long.
 L. Flower spikes scattered along old wood, 8-10 mm. long, with 6-10 flowers each. Leaves 1-2 mm. broad, scabrous above with microscopic hairs between the veins below 10. *A. ramiflora*.
 LL. Flower spikes densely crowded near the base of the stem, 10-17 mm. long, with 3-16 flowers each. Leaves 2-4 mm. broad, with long hairs on both sides, with some microscopic hairs between the lower veins 12. *A. fasciculiflora*.

Specific Descriptions.

1. ACROTRICHE DIVARICATA R.Br., *Prod.* 547 (1810). (Text-figs 1-6.)

Synonymy: Styphelia divaricata (R.Br.) Spreng., *Syst.* i: 658 (1824); (R.Br.) F. Muell., *Fragm. Phytog.*, vi: 44 (1867).

Erect much-branched shrub, 1-1.5 m. high, young branches usually shortly hirsute. *Leaves* lanceolate, spreading, flat, 8-13 mm. long, 2-3 mm. broad, with a pungent mucronate tip; margins smooth; both surfaces glabrous or lower with very small protuberances. *Inflorescence*: Flowers green, 3-5 in axillary spikes or clusters. *Bracteoles* keel-shaped, 0.5 mm. high. *Sepals* glabrous, ovate-lanceolate obtuse, 1.5 mm. long, 1 mm. broad. *Corolla* tube 2 mm. long, a darker green than the lobes; lobes 1 mm. long, spreading; single row of hairs at the neck arising directly from the epidermal cells. *Stamens*: Anthers orange, oblong, 0.5 mm. long. *Ovary* reddish, globular, glabrous, 4-5-celled, 1 mm. diameter, 1 mm. long; nectary slightly lobed, 0.5 mm. high. *Style* conical, 0.5 mm. long; flattish stigma. *Fruit* reddish.

Range: New South Wales, mainly in the Blue Mountains along the banks of gullies, and westward to the Australian Capital Territory.

Specimens Examined.—NEW SOUTH WALES: Newcastle, "small flowers under branches", 23.7.1901, R. H. Cabbage (SYD); Wamberal, 1940, J. McLuckie (SYD); Ourimbah, A. H. K. Petrie (MELU); Patonga, "leaves flat, pungent-pointed. Rigid shrub. Flowers on old wood in clusters. Plant hairy (new branches)", 5.3.1947, C. K. Ingram (NE, NSW); Sassafras Gully, Springwood, "much branched shrub, 3-4 feet", 9.1.1958, B. R. Paterson (BRI, NE, NSW, NSWU, SYD); Springwood, "edge of gullies", 8.8.1958, A. McCusker (AD, ADW, BRI, HO, INGRAM, MEL, MELU, NE, NSW, NSWU, PERTH, SYD); Head of Cedar Creek, Kowmung, Yerranderie, "200 feet, devonian quartzite", 7.6.1909, R. H. Cabbage (SYD); Canberra, 9.1928, E. B. Williamson (MEL); Top of Tidbinbilla, Queanbeyan, 5115 feet, 7.11.1911, R. H. Cabbage (SYD).



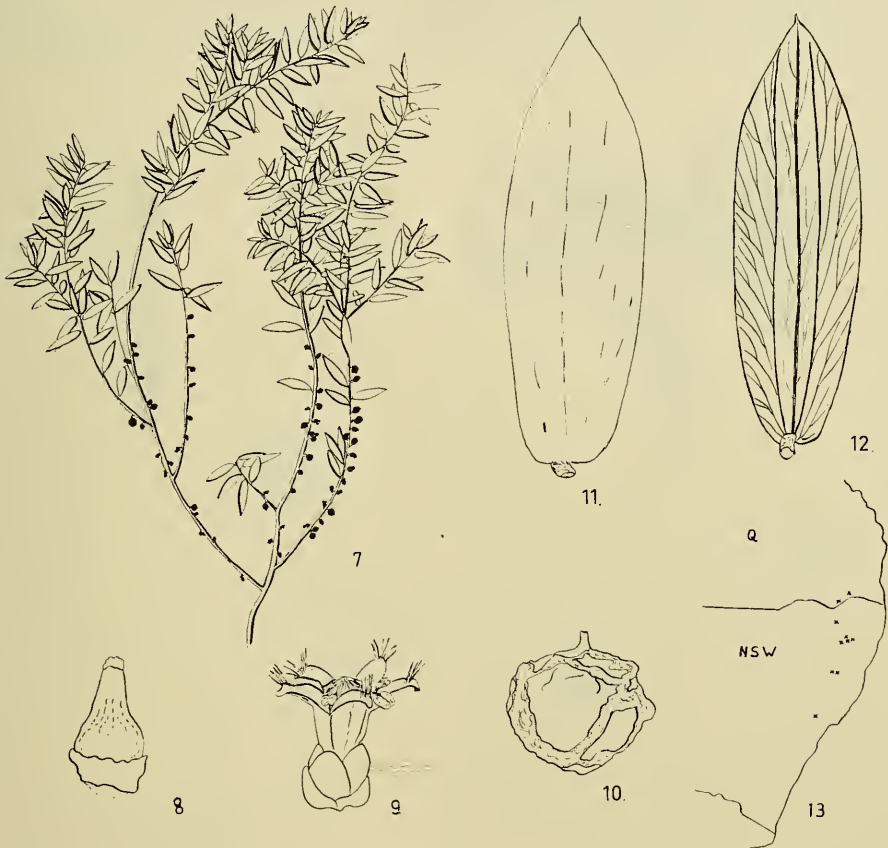
Figs 1-6.—*Acrotriche divaricata*. 1, Habit $\times 0.25$; 2, flower $\times 5.5$; 3, pistil $\times 9.5$; 4, upper surface of the leaf $\times 2.5$; 5, lower surface of the leaf $\times 2.5$; 6, distribution.

This species is usually found amongst the hills and valleys of the Great Dividing Range in the area from Newcastle to the Southern Alps. The plants occupying the southern portion of this area appear to resemble more closely the allied species *A. aggregata* than those in the north. This resemblance is found in the leaves which tend to be broader in relation to their length; they also tend to bear small protuberances on the lower surface between the veins, giving a paler appearance to this surface in relation to the upper.

2. ACROTRICHIE AGGREGATA R.Br., *Prod.*, 547 (1810). (Text-figs 7-13.)

Synonymy: *Styphelia aggregata* (R.Br.) Spreng., *Syst.*, i: 657 (1824); (R.Br.) F. Muell., *Fragm. Phytog.*, vi: 44 (1867).

An erect spreading shrub 0.6–3 m. high, with young stems lightly pubescent. *Leaves* lanceolate, flat, spreading, 10–19 mm. long, 3–6 mm. broad, with mucronate pungent tip; margins smooth or may be slightly serrated towards the summit; upper surface glabrous, lower surface with numerous small microscopic hairs giving a whitish appearance. *Inflorescence*: Flowers pale green, 4–7 in axillary spikes or clusters. *Bracteoles* keel-shaped, 0.5 mm. long. *Sepals* ovate, glabrous, 1 mm. long; hairs at the tips of the lobes and at throat white; the latter arise directly from the epidermal cells.



Figs 7-13.—*Acrotriche aggregata*. 7, Habit $\times 0.25$; 8, pistil $\times 9.5$; 9, flower $\times 5.5$; 10, fruit $\times 5.5$; 11, upper surface of the leaf $\times 2.5$; 12, lower surface of the leaf $\times 2.5$; 13, distribution.

Stamens: Anthers orange, orbicular, 0.5 mm. long. *Ovary* glabrous, slightly lobed, 1 mm. diameter, 1 mm. long, 6–10-celled, green except for a red band at the base of style which extends in both directions as ovary matures; nectary green slightly lobed. *Style* semi-conical, 0.5 mm. long; globose stigma. *Fruit* red, fleshy mesocarp depressed-globular, 3–6 mm. diameter, 2–5 mm. long.

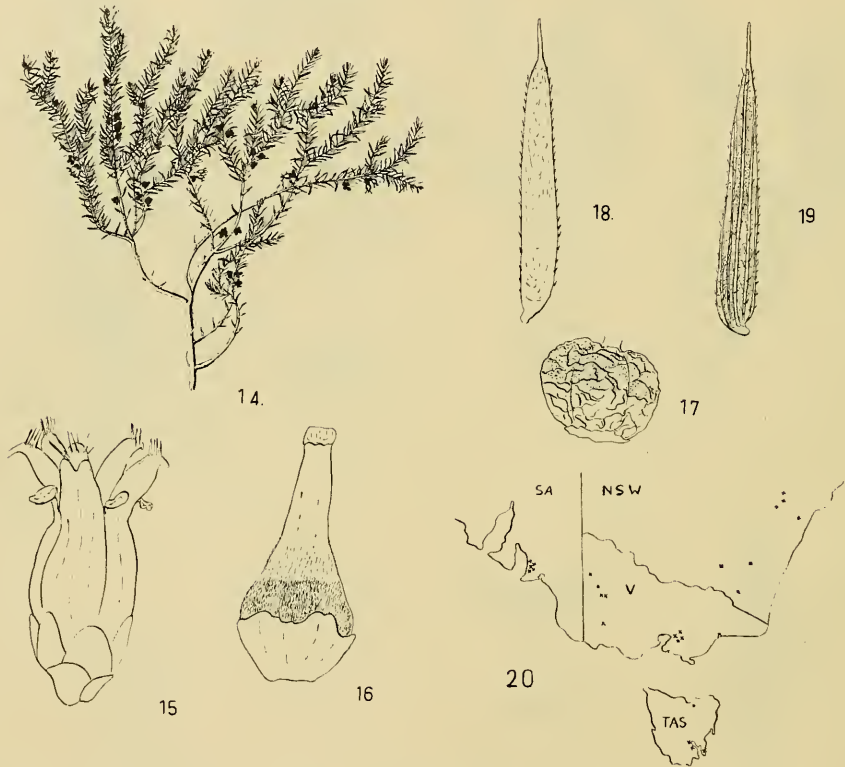
Range: Usually found in the Rainforest or wet sclerophyll forests of Queensland and New South Wales.

Specimens Examined.—QUEENSLAND: Wilson's Downfall, 3.9.1911, R. H. Cambage (SYD); Wallangarra, 1900, (SYD). NEW SOUTH WALES: Timbarra, New England, C. Stuart (MEL); Dorrigo State Forest, "red loam", 26.2.1958, B. R. Paterson (ADU, ADW, BRI, INGRAM, MEL, NSW); 12 miles west of Dorrigo on Ebor road, "red loam, red fleshy drupe, shrub 4-6 feet", 27.2.1958, B. R. Paterson (AD, BRI, HO, INGRAM, MEL, NE, NSW, NSWU, PERTH, SYD); Deervale near Dorrigo, 20.7.1958, J. L. Charley (MELU, NSW); Big Hill, Styx River, "low

diffuse shrub 2-6 feet", 23.5.1958, B. R. Paterson, (BRI, NE, NSW), Mt. Wilson, 25.11.1955, W. J. Gregson (SYD).

Specimens of *A. aggregata* attain the maximum height for *Acrotriche*, and when found in rainforests it forms a tall shrub. Unlike the majority of the species, *A. aggregata* prefers areas with a relatively high rainfall, and is distributed along the coast and eastern scarp of the Range from Central Queensland to Central New South Wales (Figure 13). Throughout this area the species shows great uniformity. Vegetatively *A. aggregata* resembles *Leucopogon lanceolatus* R.Br. with which it often grows. These two species may be distinguished vegetatively as follows:

- A. Upper surface flat without grooves *A. aggregata*.
 AA. Upper surface with three small parallel grooves corresponding to the major veins
 *Leucopogon lanceolatus*.



Figs 14-20.—*Acrotriche serrulata*. 14, Habit $\times 0.25$; 15, flower $\times 5.5$; 16, pistil $\times 9.5$; 17, fruit $\times 5.5$; 18, upper surface of the leaf $\times 2.5$; 19, lower surface of the leaf $\times 2.5$; 20, distribution.

3. *ACROTRICHE SERRULATA* (Labill.) R.Br., *Prod.*, 547 (1810). (Text-figs 14-20.)

Synonymy: *Styphelia serrulata* Labill., *Nor. Holl. Pl. Spec.* i: 45, t.62 (1804).

A low prostrate or diffuse shrub forming a mat 0.3-0.9 m. diameter, and 0.15-0.6 m. high; young branches pubescent. *Leaves* linear-lanceolate, spreading, flat, 4-10 mm. long, 0.6-2 mm. broad, with a 1 mm. long, mucronate, pungent point; margins serrated, ciliate; upper and lower surfaces with long scattered hairs; 3-5 prominent veins on the lower surface. *Inflorescence*: Flowers green, in axillary spikes or clusters with 5-8 flowers. *Bracteoles* keel-shaped, 1 mm. long. *Sepals* broadly lanceolate, obtuse, 2-3 mm. long, 1.5 mm. broad, glabrous or with ciliation at the apex, reddish tinge at summit. *Corolla* pale green, tube inflated, 4-5 mm. long, lobes spreading, 1-1.5 mm. long; short hairs at throat borne on spongy cushions. *Stamens*: Anthers orange, 1 mm. long, filaments reddish. *Ovary* globular, slightly lobed, 5-7-celled, 1-1.5 mm. diameter, 1-1.5

mm. long; proximal half covered by a lobed nectary 0.5 mm. long, distal half ciliate. *Style* linear, 1.5–2.5 mm. long, base of style bears microscopic hairs; lobed stigma. *Fruit* greyish-green, slightly lobed, globular, bearing numerous short hairs, 3–4 mm. diameter, 2–3 mm. long.

Range: From southern New South Wales through Victoria in South Australia and Tasmania.

Specimens Examined.—NEW SOUTH WALES: Hargreaves, "ground berries very much like the Tasmanian form; N.S.W. forms generally more ciliate and have broader and stiffer leaves", 1.8.1911, R. H. Cambage (SYD); Cudgegong River, 15 miles east of Rylstone, "near dam", prostrate, 11.1.1953, H. S. McKee (SYD); Bathurst, "Rocky Hill", 12.1822, C. Northpom (MEL); Colong, "shale", 20.5.1933, H. C. Davis (SYD); Tharwa-Queanbeyan, "granite", 6.11.1911, R. H. Cambage (SYD); Tumarumba, "semi-prostrate shrub, pinky-greenish flowers", 13.9.1947, E. J. McBarron (SYD); The Glen, Tumarumba, "prostrate shrub open forest", 10.11.1949, E. J. McBarron (NSWU); the base of Mt. Kosciusko, 10.1887, F. v. Mueller (MEL). VICTORIA: Sources of the Brodribb River, 11.1887, E. Merrah (MEL); Ovens River, 1891, W. Gates (MEL); Springfield Road, Mitcham, "growing beneath *Eucalyptus* sp. and shrubs, podsol, shrub about 6 inches high", 7.9.1955, T. B. Muir (MELU); Frankston, 24.8.1949, R. E. Winkworth (MELU); Port Phillip, R. Brown (MELU); Delatite River, 3.1853, F. v. Mueller (MEL); northern end of Grampians, "shrub about 6 inches high", 3.9.1955, T. B. Muir (MEL); near the Pinnacle, Grampians, "shrub about 3 feet high, flowers green, in Heathland on sandstone", 10.8.1958, B. G. Briggs (MEL, NSW); Mitchell's Journey No. 275, "on the Glenelg near Chetwynd", 5.8.1836, (MEL); Wimmera, 7.8.1892, J. M. Reader (MEL); Yenda, N.W. District, 9.1905, W. Callister, (MEL); Tallandora, H. B. Williamson (MEL); Austral felix, F. v. Mueller (MEL). TASMANIA: Punchbowl, Launceston, 9.1921, H. M. Rupp (MELU); Port Arthur, 1892, J. Bufton (MEL); Mt. Nelson, Hobart, 17.1.1928, E. H. Ising (AD 95813093); Knocklofty, Hobart, 9.1920, H. M. R. Rupp. SOUTH AUSTRALIA: Near Mt. Gawler, 15.10.1958, J. B. Cleland (AD 95911052); Chain of Ponds, "hillside compact shrub, 6 inches high", 23.8.1958, B. R. Paterson (AD, BRI, HO, MEL, MELU, NSW, PERTH); Tea Tree Gully, Adelaide, "9 inches forming a dense mat 2-3 feet in diameter", 27.8.1958, B. R. Paterson (N.S.W.); Morialta Falls, between bottom of third fall and top of second fall, 20.10.1956, H. Eichler 13080 (AD 95815003, NE); Gandy's Gully in foothills, about 8 Km. east of Adelaide, 16.7.1938, E. H. Ising (AD 95813090); Mt. Lofty, 7.8.1926, E. H. Ising (AD 95815023); Mt. Lofty, "hillside, compact shrub 6 inches", 24.8.1958, B. R. Paterson (BRI, MEL, NE, NSW, NSWU); Mt. Lofty, 3.9.1916, E. H. Ising (AD 95813094); Stirling East, near school, "in natural shrub", 17.8.1957, H. Eichler 13907 (AD 95813067, NE); National Park, Belair, near Pine Oval, 16.9.1958, H. Eichler 14931 (AD, NE); Mt. Lofty Range, South Reserve, Myponga, 22.11.1957, J. B. Cleland (AD 95846005); Mylor, "9 inches high, forming a dense mat, 2-3 feet in diameter", 26.8.1958, B. R. Paterson (HO, SYD); Macclesfield, 26.8.1958, B. R. Paterson (AD, BRI, MELU, NSWU, SYD); Strathalbyn, "forming a dense mat, 9 inches high, 2-3 feet in diameter", 26.8.1958, B. R. Paterson (AD, ADW, HO, INGRAM, NE, PERTH).

This species has the widest distribution within the genus, but within its range the degree of variation is small and concerns the amount of pubescence of the leaves. In some plants the mature leaves are comparatively "hairy" while in others they are almost glabrous, but in all cases the young leaves bear numerous long thin hairs.

The large inflated corolla-tube of *A. serrulata* is half-filled with honey, resulting in a heavy, slightly unpleasant smell. Ants are attracted to this plant by this large quantity of honey (common name in some areas "Ant's Delight"). The accepted common name is "Green Groundberry".

4. ACROTRICHE AFFINIS DC., *Prod.*, vii: 757 (1839). (Text-figs 21–27.)

Much branched shrub, 0.3–0.5 m. high, forming an erect mat. *Leaves* lanceolate, thick, rigid, 3–8 mm. long, 0.7–2 mm. broad, spreading, with a mucronate pungent tip 0.5 mm. long; margins slightly serrated; upper surface shiny, lower surface deeply grooved with numerous small microscopic hairs together with several long thin hairs in the grooves. *Inflorescence*: Flowers green, 7–8, spikes axillary. *Bracteoles* keel-shaped, 1 mm. long. *Sepals* subcordate, pinkish tinge at apex, glabrous, 2 mm. long, 1.5 mm. broad. *Corolla* green, tube 2.5 mm. long, lobes 1.3 mm. long; hairs at throat arising from large spongy cushions almost completely enclosing the throat. *Stamens*: Anthers orange, 0.5 mm. high. *Ovary* slightly angled, 1 mm. diameter, 1 mm. long, 4–6-celled, short scattered hairs on distal half, proximal half covered by a lobed nectary 0.4 mm. long. *Style* slightly conical, 1 mm. long, semi-translucent stigma. *Fruit* globular, 4 mm. diameter, 2.5 mm. long, covered by very short microscopic hairs.

Range: South-eastern South Australia and Victoria, particularly in mallee communities.

Specimens Examined.—VICTORIA: Near Forester's Spring, Dinyarrack North, "under *Melaleuca wilsonii* bushes in depressions between mallee sand-hills", 9.9.1949, J. H. Willis (MEL); Hopkins Mouth, 3.1900, H. B. Williamson (MEL); Wilson's Promontory, 12.5.1853, F. v. Mueller (MEL). SOUTH AUSTRALIA: Meningie, near Lake Albert, 9.11.1958, J. B. Cleland (AD 95911051).

This species is limited to poor sandy soils in Victoria and south-eastern South Australia. *A. affinis* is closely related to *A. serrulata*, with which it has often been united. Bentham (1868) considered that these two species were "probably the same". Mueller (1867) and Rodway (1903) combined them. Black (1952) on the other hand kept *A. affinis* separate from *A. serrulata*, but he commented "these 2 species would perhaps be better united". The author considers the two species to be distinct taxa.



Figs 21-27.—*Acrotriche affinis*. 21, Habit $\times 0.25$; 22, flower $\times 5.5$; 23, pistil $\times 9.5$; 24, fruit $\times 5.5$; 25, upper surface of the leaf $\times 2.5$; 26, lower surface of the leaf $\times 2.5$; 27, distribution.

This distinction lies chiefly in the leaves which in *A. affinis* are shorter, thicker and quite rigid with deep grooves between the veins, whereas in *A. serrulata* they are neither rigid nor deeply grooved. Further evidence of the distinction of these two species is provided by anatomical characteristics of the leaves and ovaries, which will be presented in a later paper.

The corolla-tubes of this rigid plant are only slightly inflated compared with those of *A. serrulata*.

5. ACROTRICHE RIGIDA, n. sp. (Text-figs 28-34.)

Holotype: Lee's Pinch, Goulburn River, "growing in intricately branched and matted clumps. Up to 6 feet in diameter and 4 feet high, branching from the base in many stems. Leaves pungent and easily detached. Readily adhering to clothing, etc., hence avoided by animals. Growing on sandstone hillside (south aspect) in association with *Angophora intermedia* and *Acacia linearifolia*"; 15.11.1958 C. K. Ingram (NSW). *Paratypes*: *Loc. cit.* (AD, BRI, HO, K, MEL, NSW, PERTH).

Frutex rigidus, in massas spissas et confertissimas usque ad 1.8 m. per medium et 1.2 m. altas collectus. *Folia* lineari-lanceolata, rigida, stirpi ex quo expandunt opposita, 7.5-11 mm. longa, 1-1.5 mm. lata, acumine attenuato, mucronato 1 mm. longo;

marginibus valde recurvatis, in parte superiore scabra; inter venas in parte inferiore alte striata unde oriuntur capilli multi minutissimique. Flores virides, spiculis flores 5-7 numero ferentibus e ramis adultis enascentes. Bracteolae carinae similes, 1 mm. longae. Sepal is acumina rosacea, obtusa, 2 mm. longa, 1.5 mm. lata, margiibus superioribus quasi fimbriis adornatis. Corollae-tubus 2.5 mm. longus, lobis 1 mm. longis, capillis in gula quasi e pulvinis orientibus. Stamina antheris orbicularibus 0.8 mm. longis, in brevibus, filamentis positis. Ovarium non multum lobatum, 1 mm. per medium, 1 mm. altum, in 4-5 partes divisum; dimidio proximo nectario subviridi tecto; dimidio distanti breves, leviter coloratos capillos ferente. Stylus rectus, 1.5 mm. longus, capillis



Figs 28-34.—*Acrotriche rigida*. 28, Habit $\times 0.25$; 29, fruit $\times 5.5$; 30, pistil $\times 9.5$; 31, flower $\times 5.5$; 32, upper surface of the leaf $\times 2.5$; 33, lower surface of the leaf $\times 2.5$; 34, distribution.

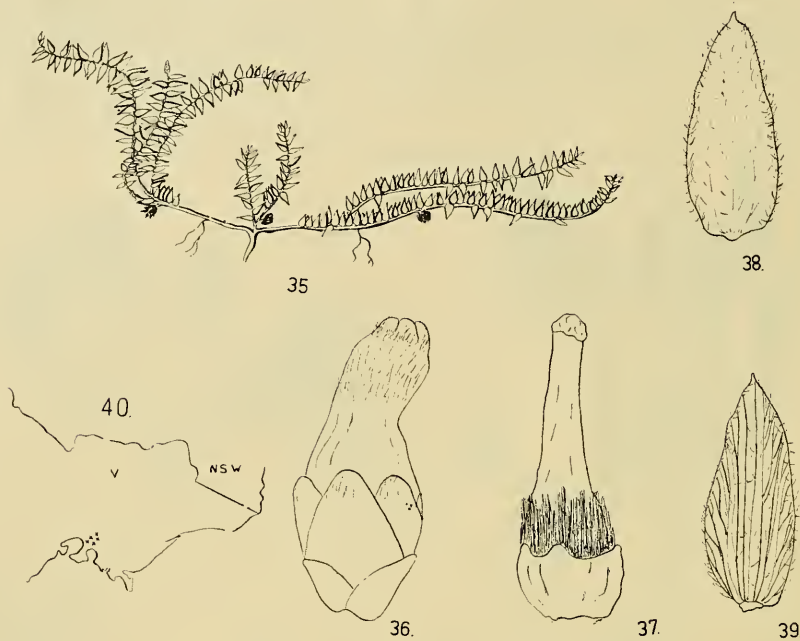
compluribus minutissimis usque ad basim. Drupa albida et subviridis, depresso globularis, per medium 3 mm., 2-2.5 mm. alta, multos, parvos, albos capillos ferens.

A rigid shrub forming clumps up to 1.8 m. in diameter and 1.2 m. high. Leaves linear lanceolate, rigid, spreading at right angles to the stem, 7.5-11 mm. long, 1-1.5 mm. broad, attenuate mucronate tip 1 mm. long; margins much recurved; upper surface scabrous; numerous microscopic hairs are borne in the deep grooves between the veins. Inflorescence: Flowers green, in 5-7 flowered spikes on the old wood. Bracteoles keel-shaped, 1 mm. long. Sepals tips pinkish, obtuse, 2 mm. long, 1.5 mm. broad, margins of upper edges fringed. Corolla tube 2.5 mm. long, lobes 1 mm. long; hairs at throat arising from cushion-like structures. Stamens: Anthers orbicular, 0.8 mm. long, on short filaments. Ovary slightly lobed, 1 mm. diameter, 1 mm. long, 4-5-celled, the proximal half covered by a pale green nectary; the distal half bears short pale coloured hairs. Style linear, 1.5 mm. long, with a few microscopic hairs towards the

base. *Fruit* creamy-green, depressed-globular, 3 mm. diameter, 2-2.5 mm. long, bearing numerous small white hairs.

Habitat: Ridges with sandstone or granite formation.

Range: Central Western Slopes of New South Wales; individual areas appear to be localized.



Figs 35-40.—*Acrotriche prostrata*. 35, Habit $\times 0.25$; 36, mature bud $\times 5.5$; 37, pistil $\times 9.5$; 38, upper surface of the leaf $\times 2.5$; 39, lower surface of the leaf $\times 2.5$; 40, distribution.

Specimens Examined.—NEW SOUTH WALES: Warrumbungle National Park, 10.1958, F. K. Hersey, (NSW 46141); foot of Breadknife, Warrumbungle Mtns., "common, spreading to 2 feet", 24.5.1959, C. K. Ingram and W. J. Hayes (NE, NSW); Baerami, 14.5.1911, R. H. Cambage (SYD); Lee's Pinch, Wollar, "altitude 1100 ft, 2-3 ft high, bushy habit. Growing on top of ridge, sandstone formation", 10.8.1950, L. A. S. Johnson and E. F. Constable (NSW 18840, NE); Wollar, via Mudgee, "green flowers in clusters on old wood. Leaves spreading scarcely paler underneath", 11.8.1950, L. Johnson and E. Constable (INGRAM, NE); Lee's Pinch, Goulburn River, 5.10.1952, C. K. Ingram (INGRAM); Harvey Range State Forest, Trewilga, "compact undershrub 2-3 ft., fruits creamy-green. Common, granite", 2.10.1951, E. F. Constable (NE, NSW 17344).

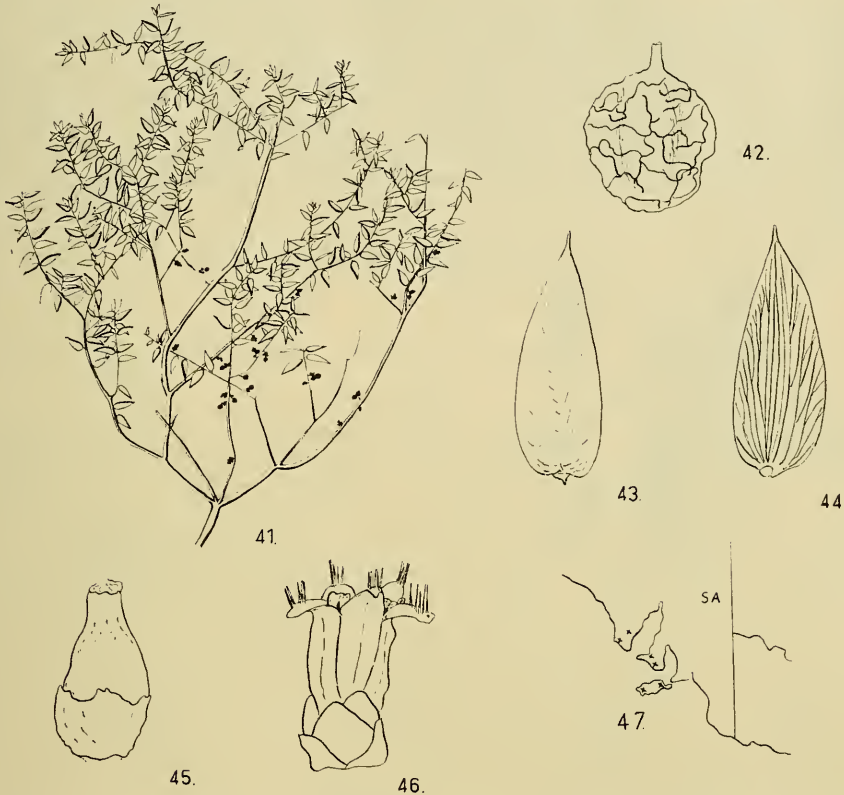
This group has previously been regarded as belonging to *A. serrulata*. However, its specific nature is realized when the general habit of the plant and the internal and external structures of the leaf and fruit are considered (Paterson, M.Sc. thesis 1959, NE). The localization of this plant to small areas is probably due to clearing, since in protected areas, such as the Harvey Range State Forest, Constable (NE, NSW 17344) has recorded it as common.

6. ACROTRICHE PROSTRATA F. Muell., in *Trans. Vict. Inst.*, 40 (1855). (Text-figs 35-40.)

A trailing shrub, with weak prostrate pubescent branches, which are adpressed to the ground and bear adventitious roots. *Leaves* narrow to broadly lanceolate, thin, spreading, ciliate, 7.5-15 mm. long, 2-8 mm. broad, attenuate mucronate tip 1 mm. long; margins slightly recurved, ciliate; lower surface scarcely paler than upper surface. *Inflorescence*: Flowers 7-10 in clusters on lower side of stem, outer flowers curved. *Bracteoles* keel-shaped, 1 mm. long. *Sepals* lanceolate, 3 mm. long, 1.5 mm. broad, membranous, with several long hairs near the apex. *Corolla* greenish, tube inflated, 1 mm. long, long hairs on back of lobes; and at the throat long scattered hairs arise

from a slight swelling. *Stamens*: Anthers oblong, 0.8 mm. long on short filaments. *Ovary* lobed, 1-1.5 mm. diameter, 0.8-1 mm. long, 5-celled; long thin hairs on distal half, proximal half covered by a lobed nectary 0.5 mm. long. *Style* slightly conical, 2 mm. long; globose stigma. *Fruit* not seen by the writer, or described by previous writers.

Range: Southern and eastern Victoria.



Figs 41-47.—*Acrotriche patula*. 41, Habit $\times 0.25$; 42, fruit $\times 5.5$; 43, upper surface of the leaf $\times 2.5$; 44, lower surface of the leaf $\times 2.5$; 45, pistil $\times 9.5$; 46, flower, $\times 5.5$; 47, distribution.

Specimens Examined.—VICTORIA: Dandenong Ranges, 7.1900, C. Walker (MEL); Dandenong Ranges, 1.1853, F. v. Mueller (MEL); Delatite River, 3.1853, F. v. Mueller (MEL); Montrose, P. St John (MEL); Beaconsfield, 21.4.1902, P. R. H. St. John (MEL); Emerald, 1903, J. P. McLennan (MEL); Old Beerae Rd., 12.2.1956, S. Ducker (MELU).

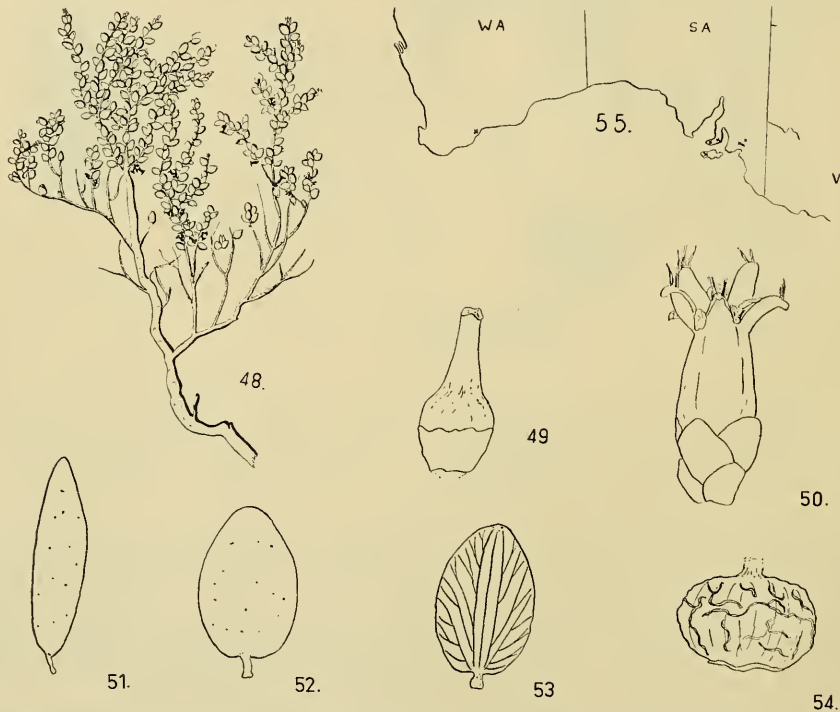
A small localized species which is remarkable in being the only member of the genus to have adventitious roots growing from the frail stems which are addressed to the ground.

In 1855, when Mueller described this species, he remarked that "the nearest affinity is to *A. ramiflora*, and it produces likewise edible fruits". The author is of the opinion that Mueller was referring to *A. fasciculiflora* (Regel.) Benth., and not to *A. ramiflora* R.Br. (*Fragm. Phytog.*, vi: 44). Yet later (1867) Mueller combined *A. prostrata* with *A. serrulata* under the name *Styphelia serrulata*, but all subsequent workers have regarded these two species as distinct. With respect to the arrangement of the flower spike and the structure of the individual flower, this species most closely resembles *A. halmaturina*, but in habit and leaf structure *A. prostrata* is distinct.

7. ACROTRICHE PATULA R.Br., *Prod.*, 547 (1810). (Text-figs. 41-47.)

Synonymy: *Styphelia patula* (R.Br.) Spreng., *Syst.*, i: 657 (1824). *Styphelia patula* (R.Br.) F. Muell., *Fragm. Phytog.*, vi: 44 (1867).

Rigid, divaricately branched shrub forming dense clumps up to 0.6 m. diameter, and 0.4-0.6 m. high; young stems lightly pubescent. *Leaves* ovate-lanceolate, rigid, concave above, 6-12 mm. long, 2.3-5 mm. broad, with attenuate mucronate pungent tips; margins slightly serrated towards the apex; upper surface glabrous, shiny; lower surface discoloured. *Inflorescence*: Flowers pale green, in axillary spikes or clusters with 6-9 flowers. *Bracteoles* keel-shaped, glabrous, or microscopically pubescent, 0.6 mm. long, 1.2 mm. broad. *Corolla* green with a white streak extending from the throat to halfway down the corolla-tube along the lines of fusion; tube 2.3 mm. long, lobes 1 mm. long, with reflexed hairs at apex of lobes tending to form a line linking them with the hairs at throat, the latter arise directly from the epidermal cells. *Stamens*: Anthers orbicular, orange-brown, 0.7 mm. long. *Ovary* glabrous, angled, 1 mm. diameter, 1.2 mm. long, 5-8-celled, lobed nectary covering proximal half 0.5 mm. long. *Style* short, linear to conical; flat stigma. *Fruit* green, glabrous, depressed-globular. 2-3 mm. diameter.



Figs 48-55.—*Acrotiche cordata*. 48, Habit $\times 0.25$; 49, pistil $\times 9.5$; 50, flower $\times 5.5$; 51, 52 upper surface of two leaves to show shape variation $\times 2.5$; 53, lower surface of the leaf $\times 2.5$; 54, fruit $\times 5.5$; 55, distribution.

Range: Southern coast of South Australia and Kangaroo Is.

Specimens Examined.—SOUTH AUSTRALIA: Marino, 6.3.1926, E. H. Ising (AD 95815024); near Daly Head-Warooka Road about 8 Km. east of crossing with Corny Point-Stenhouse Bay Road, 30.9.1957, H. J. Eichler 14157, 14158, (AD95813074, NE, AD95813067, NE); between Corny Point and Cape Spencer, 26.9.1957, H. J. Eichler 13970 (AD 95750040, NE); south of Mt. Damper, about 15 Km. N.E. of Minnipa 23.9.1957, J. B. Cleland (AD 95846001); on cliffs (300 feet high) within 100 yards of edge, west of Lake Hamilton, Eyre Peninsula, "calcareous sandy soil, low rigid shrub to 3 feet high", 27.2.1959, H. B. S. Womersley (AD 95912001); Kingscote, K.I., "1-2 feet high, 2 feet diameter", 18.8.1958, B. R. Paterson (BRI, INGRAM, SYD); American River, "dense much branched shrub, 1-2 feet high, 2 feet diameter, green fruits pale green flowers", 18.8.1958, B. R. Paterson (AD, HO, MEL, NE, NSW, NSWU, PERTH); West Bay, in Flinders Chase, K.I., 12.4.1958, J. B. Cleland, (AD 95817048).

A. patula shows only slight variation between its different populations.

8. ACROTRICHE CORDATA (Labill.) R.Br., *Prod.*, 548 (1810). (Text-figs 48-55.)

Synonymy: *Styphelia cordata* Labill. *Nov. Holl. Pl. Spec.*, i: 46, t.63 (1804). *Acrotriche ovalifolia* R.Br., *Prod.*, 548 (1810). *Styphelia ovalifolia* (R.Br.) Spreng., *Syst.*, i: 656 (1824). *Acrotriche subcraata* DC., *Prod.*, vii: 757 (1839). *Acrotriche ovalifolia* var. ? *oblongifolia* Benth., *Fl. Austral.*, iv: 228 (1868).

Erect spreading shrub 0.1-0.2 m. high; young branches lightly pubescent. Leaves ovate to oblong, thick, flat or nearly so, 5-12 mm. long, 2-5 mm. broad; margins smooth; upper surface glabrous, shiny; lower surface with three prominent veins which form a blunt callous point at the apex; a few small protuberances between the veins. *Inflorescence*: Flowers green, in axillary 3-6-flowered spikes. *Bracteoles* keel-shaped, glabrous, 1 mm. long. *Sepals* ovate, glabrous, obtuse, 1.5 mm. long, 1.3 mm. broad. *Corolla* green, tube may be slightly inflated, 2.5 mm. long, lobes 1.5 mm. long, spreading; numerous short hairs at the throat arising from a cushion. *Stamens*: Anthers orange, orbicular, 0.5 mm. long on short filaments. *Ovary* glabrous, green, 1 mm. diameter, 1 mm. long, 4-5-celled; lobes nectary covering proximal half 0.5 mm. long. *Style* short, thick, conical, 1 mm. long; obtuse stigma. *Fruit* globular-depressed, pale green, 2-3 mm. diameter, 1.5-2 mm. long.

Range: Usually coastal areas of southern Western Australia, South Australia and south-western Victoria.

Specimens Examined.—SOUTH AUSTRALIA: Bangham, about 35 Km. south-east of Bordertown, 5.1931, J. B. Cleland (AD 95911061); Bangham, 29.5.1931, J. B. Cleland (AD 95911063); scrub between Bordertown and Naracoorte, 13.3.1931, J. B. Cleland (AD 95911060); Meningie, near Lake Albert, 9.11.1958, J. B. Cleland (AD 95911054); Chauncey's Line, about 15 Km. south-west of Murray Bridge, 26.9.1953, J. B. Cleland (AD 95911059); Chauncey's Line Mallee, 7 miles east of Hartley, 10.12.1938, E. H. Ising (AD 95813096); Coonalpyn, 5.1911, Herb. J. B. Cleland (AD 95911057); Encounter Bay, Goolwa, 27.8.1935, J. B. Cleland (AD 95911064); near Maitland, 19.5.1928, J. B. Cleland (AD 95911056, AD 95911066); seacoast about 4 Km. south of Corny Point, 27.9.1957, HJ. Eichler 14056 (AD 95751988, NE); Port Lincoln, 28.6.1952, F. Mills (AD 95726001); Kirton Point Reserve, Port Lincoln, 12.10.1958, D. J. E. Whibley 367 (AD, NE); Rocky River, K.I., 2.2.1940, J. B. Cleland (AD 95911058); Rocky River, K.I., 6.3.1925, J. B. Cleland (AD 95911062); Rocky River, K.I., 4.3.1929, J. B. Cleland (AD 95911065); road to Cape de Couedic, K.I., 4.12.1934, J. B. Cleland (AD 95911067); West Bay, in Flinder's Chase, K.I., 12.4.1958, J. B. Cleland (AD 95817049); south end of Flinder's Chase, K.I., 13.4.1958, J. B. Cleland (AD 95817047); South Australia, F. v. Mueller (MEL); South Australia, 1900, W. Gill (MEL). WESTERN AUSTRALIA: Qualup, Gairdner River, "diffuse 4-8 ins. high, flowers green, sandstone cliffs", 16.10.1928, C. A. Gardner (Perth); West Australia, A. Drummond (MELU).

Intraspecific leaf variation within *A. cordata* ranges from elliptical-oblong leaves (2×12 mm.) to ovate-oblong leaves (4×5). A photograph of the type specimen *A. ovalifolia* var. ? *oblongifolia* Benth. was examined. The leaves were elliptical-oblong, their characters within the infraspecific variation.

9. ACROTRICHE DEPRESSA R.Br., *Prod.*, 648 (1810). (Text-figs 56-62.)

Synonymy: *Styphelia depressa* (R.Br.) Spreng., *Syst.*, i: 655 (1824). *Acrotriche depressa* var. *loddigesii* DC., *Prod.*, vii: 757 (1838). *Styphelia depressa* (R.Br.) F. Muell., *Fragm.*, vi: 44 (1867).

A rigid spreading, intricately branched shrub 0.6-1.7 m. high, young branches pubescent. *Leaves* thick, glabrous, reflexed, ovate-lanceolate, to subcordate, 2.5-3 mm. long, 1.5-2 mm. broad; with a mucronate pungent tip, flat or convex above, margins rough, slightly recurved; lower surface bears microscopic hairs between the veins, giving a pale colour to this region. *Inflorescence*: Flowers 12-20 in long spikes massed towards the base of the stem. *Bracteoles* keel-shaped, 1 mm. long. *Sepals* lanceolate, glabrous except for a marginal fringe, obtuse, 2.5 mm. long, 1 mm. broad. *Corolla* pale green, tube 3-4 mm. long, lobes 1-2 mm. long; hairs at throat in tufts arising directly from the epidermal cells. *Stamens*: Anthers brick red, oblong, 0.5 mm. long. *Ovary* egg-shaped with adpressed hairs, 0.8 mm. diameter, 1.5 mm. long, 2-3-celled; proximal half covered by a much dissected nectary 0.8 mm. high. *Style* straight, 1 mm. long.

flat stigma. *Fruit* fleshy, ovoid, dark purple when ripe, 5–7 mm. diameter, 8–10 mm. long, short scattered hairs; 1–2 trigonous seeds usually ripen.

Range: North-western Victoria, South Australia, Kangaroo Is., and Western Australia, usually on sandy soils.

Specimens Examined.—SOUTH AUSTRALIA: Near Millbrook Reservoir, "in *Eucalyptus obliqua*-*E. elaeophora* sclerophyll forest", 7.2.1950, R. L. Specht (ADU); Hartley, 24.8.1958, E. R. Paterson (INGRAM, NE, NSW, PERTH); Chauncey's Line Wild Life Reserve, ca 11 Km. south of Monarto South, 16.4.1956, Hj. Eichler 12402 (AD 95904117); Strathalbyn, "2 feet",



Figs 56-62.—*Acrotriche depressa*. 56, Habit $\times 0.25$; 57, fruit $\times 5.5$; 58, pistil $\times 9.5$; 59, flower $\times 5.5$; 60, upper surface of the leaf $\times 2.5$; 61, lower surface of the leaf $\times 2.5$; 62, distribution.

26.8.1958, E. R. Paterson (AD, MELU, NSW); Goolwa Shrub, 8.1896, O. E. Menzel (MEL); American River K.L., "bush spreading $\frac{1}{2}$ to 2 feet, fruits almost black", 18.8.1958, E. R. Paterson (AD, ADW, BRI, HO, MEL, NE, NSW, SYD, PERTH); 13 Km. due south of Kingscote on the road Kingscote-Penneshaw, "shrub ca. 1.7 m high", 13.11.1958, Hj. Eichler 15485 (AD, NE); 13 Km. due south of Kingscote on the road Kingscote-Penneshaw, "shrub about 30 cms", 13.11.1958, Hj. Eichler 15486 (AD, NE).

A. depressa has a fairly wide range, including north-western Victoria and Western Australia as well as South Australia, where it has the widest distribution. Only slight variation has been detected amongst the specimens examined, but unfortunately no specimens from Western Australia have been seen, although they have been recorded by Bentham (1868), Ewart (1930) and Black (1952).

The erect habit of *A. depressa* var. *loddigesii* is within the range of infraspecific variation.

1. *depressa* forms a scraggy bush and from a distance it resembles *Kochia aphylla* ("cottonbush"). In South Australia it is usually known as "native currant" (on Kangaroo Is. also known as "cranberry") because of the numerous large fleshy purple fruits towards the base of the stems which are edible and are used to make jams and jellies. Large quantities of fruits are required to make a small amount of jam, and pickers in some areas have been destroying large numbers of plants by uprooting them.

10. ACROTRICHE RAMIFLORA R.Br., *Prod.*, 547 (1810). (Text-figs 63-68.)

Synonymy: *Styphelia ramiflora* (R.Br.) Spreng., *Syst.*, i: 659 (1824). *Acrotriche manglesii* Sond. in *Lehm. Pl. Preiss.*, i: 326 (1845).

Erect divaricately branched shrub 0.5-1 m. high; glabrous or slightly pubescent. *Leaves* linear-lanceolate, 6-8 mm. long, 1-2 mm. broad, spreading attenuate pungent-pointed; margins recurved, smooth or slightly serrated; upper surface scabrous, with numerous small microscopic hairs on lower surface between the veins. *Inflorescence*: Flowers 6-10 in spikes scattered along the old wood; spikes 8-10 mm. long. *Bracteoles* keel-shaped, 1.5 mm. broad. *Corolla* pinkish, tube 2.5 mm. long, lobes 1.5 mm. long;



Figs 63-68.—*Acrotriche ramiflora*. 63, Habit $\times 0.25$; 64, pistil $\times 9.5$; 65, flower $\times 5.5$; 66, lower surface of the leaf $\times 2.5$; 67, upper surface of the leaf $\times 2.5$; 68, distribution.

tip of lobes only slightly reflexed, hairs at throat arising from a spongy mat. *Stamens* bear microscopic hairs on filaments. *Ovary* globular, smooth, reddish, 1 mm. diameter, 1 mm. long, 4-5-celled; nectary smooth, 0.5 mm. long, covering proximal half of the ovary. *Style* straight, 0.8 mm. long, globose stigma. *Fruit* depressed-globular, red.

Range: Above 2000 feet, southern areas of Western Australia.

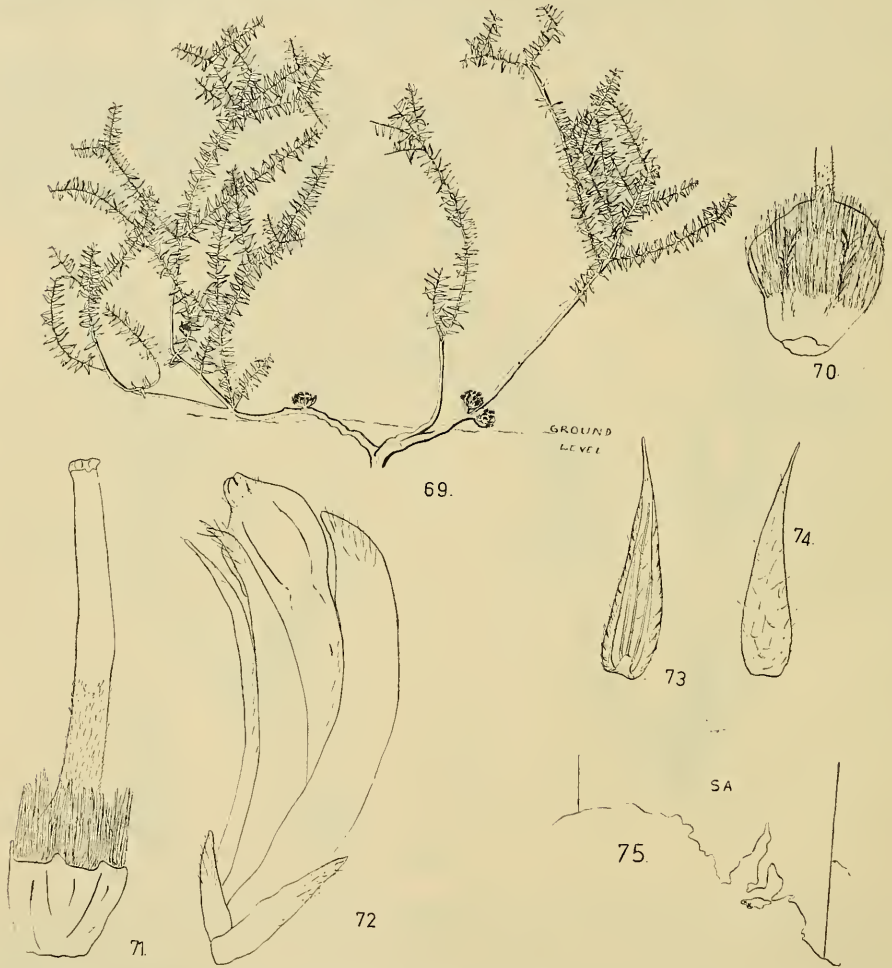
Specimens Examined.—Ellen's Peak, Stirling Range, "divaricately branched shrub, 2-3 feet high", 5.10.1928, C. A. Gardner (PERTH); the description of *A. manglesii* by Sonder (1845) is in complete agreement with two specimens of *A. ramiflora* examined; one specimen was destroyed by fire. Sonder's description is based on a specimen collected in the Swan River district by Captain James Mangles, but whether the species still exists in this locality is not known.

A. ramiflora superficially resembles *A. rigida*. The two species may be distinguished vegetatively as follows:

- A. Leaves linear-lanceolate, 6-8 mm. long, 1-2 mm. broad; lower surface without grooves between the veins *A. ramiflora*.
 AA. Leaves linear-lanceolate, 7.5-11 mm. long, 1-1.5 mm. broad; lower surface with deep grooves between the veins *A. rigida*.

11. ACROTRICHE HALMATURINA, n. sp. (Text-figs 69-75.)

Holotype: Ten miles from Rocky River off the Western Highway, Kangaroo Is..
 "forms small clumps 6-9 inches high, flowers in small clusters at ground level, pinkish



Figs 69-75.—*Acrotriche halmaturina*. 69, Habit $\times 0.25$; 70, fruit $\times 5.5$; 71, pistil $\times 9.5$; 72, mature bud $\times 5.5$; 73, lower surface of the leaf $\times 2.5$; 74, upper surface of the leaf $\times 2.5$; 75, distribution.

tips on corolla", 19.8.1958, B. R. Paterson (AD). *Paratypes*: *Loc. cit.* (BRI. HO. K, L. MEL, NE, NSW, PERTH, UC, W).

Frutex humilis, in massas 0.15-0.3 m. altas collectus, cui stirpium basis sub terra sepelitur. *Folia* lanceolata, 5-12 mm. longa, 2-5 mm. lata, acumine attenuato, macronato, 1 mm. longo; marginibus recurvatis, capillis longis in et superioribus et inferioribus foliorum partibus. *Flores* curvati, 8-12 numero in stirpe ubi e terra oritur in racemis positi. *Bracteolae* angustae, 2 mm. longae, 1 mm. latae, capillos minutissimos in parte superiore ferentes. *Sepalis* subviridis, anguste lanceolatus, acutus, 8 mm. longus, 1.5 mm. latus, tenuis apicem capillos minutissimos ferens. *Corollae*-tubus 5 mm. longus, capillos

parvos prope acumen in parte interiore ferens; capillis longis in gula recte a cellis epidermalibus orientibus. *Stamina* antheris orbicularibus, 1 mm. longis, infilamentis brevibus positis. *Ovarium* lobatum, 1.5 mm. per medium, 2 mm. altum, in quinque partes divisum, dimidio proximo glabro et nectario lobato 1 mm. alto tecto; dimidio distantii capillos longos ferente. *Stylus* rectus, 5 mm. longus, capillos minutissimos tenus basim ferens. *Drupa* globularis, 4 mm. per medium, 4-5 mm. alta, capillis sparsis.

A low shrub forming clumps 0.15-0.3 m. high, with the stem bases buried beneath the ground surface. *Leaves* lanceolate, 5-12 mm. long, 2-5 mm. broad, with an attenuate mucronate tip 1 mm. long and margins recurved; long hairs on both upper and lower leaf surfaces. *Inflorescence*: Flowers curved, 8-12 in each cluster on the stem at ground level. *Bracteoles* narrow, 2 mm. long, 1 mm. broad, microscopic hairs at summit. *Sepals* pale green, narrow-lanceolate, acute, 8 mm. long, 1.5 mm. broad with microscopic hairs towards the apex. *Corolla*-tube 5 mm. long, with small hairs near tip on exterior surface, and reflexed reddish hairs near the tip of lobes; long hairs at the throat arise directly from epidermal cells. *Stamens*: Anthers orbicular, 1 mm. long, on short filaments. *Ovary* lobed, 1.5 mm. diameter, 2 mm. long, 5-celled, the proximal half glabrous and covered by a lobed nectary 1 mm. long; distal half bears long hairs. *Style* straight, 5 mm. long, with microscopic hairs towards the base. *Fruit* globular, 4 mm. diameter, 4.5 mm. long, with sparse hairs.

Range: Localized to Flinders Chase, Kangaroo Is., where it is found only on poor soils.

Specimens Examined.—KANGAROO I.: 3 Km. east of Western Highway and 9.5 Km. north of South Coast Rd., 8.11.1958, HJ. Eichler 15297 (AD, NE, topotype); west side of Western R., about 6.5 Km. north of Playford Highway and 29 Km. east of Cape Borda, 10.11.1958, P. G. Wilson 837 (AD, NE).

Cleland and Black (1941) were the first to notice the distinctive characters of this species. They noted that "*Acrotriche fasciculiflora* (Regel) Benth., recorded by Tate and Tepper, appears as a small form 9 inches high, with the fruit clusters less numerous in mainland species; on laterite hilltops near Bull's Creek and Rocky River, Flinder's Chase; it has not yet been found in flower and may be a new variety".

The inflorescence resembles somewhat *A. prostrata*, with its globular cluster. The habit and the leaves bear a likeness to *A. fasciculiflora*.

A. Shrub 0.15-0.3 m. high, leaves 0.275-0.325 mm. thick *A. halmaturma*.

AA. Shrub up to 1 m. high. Leaves 0.137-0.225 mm. thick *A. fasciculiflora*.

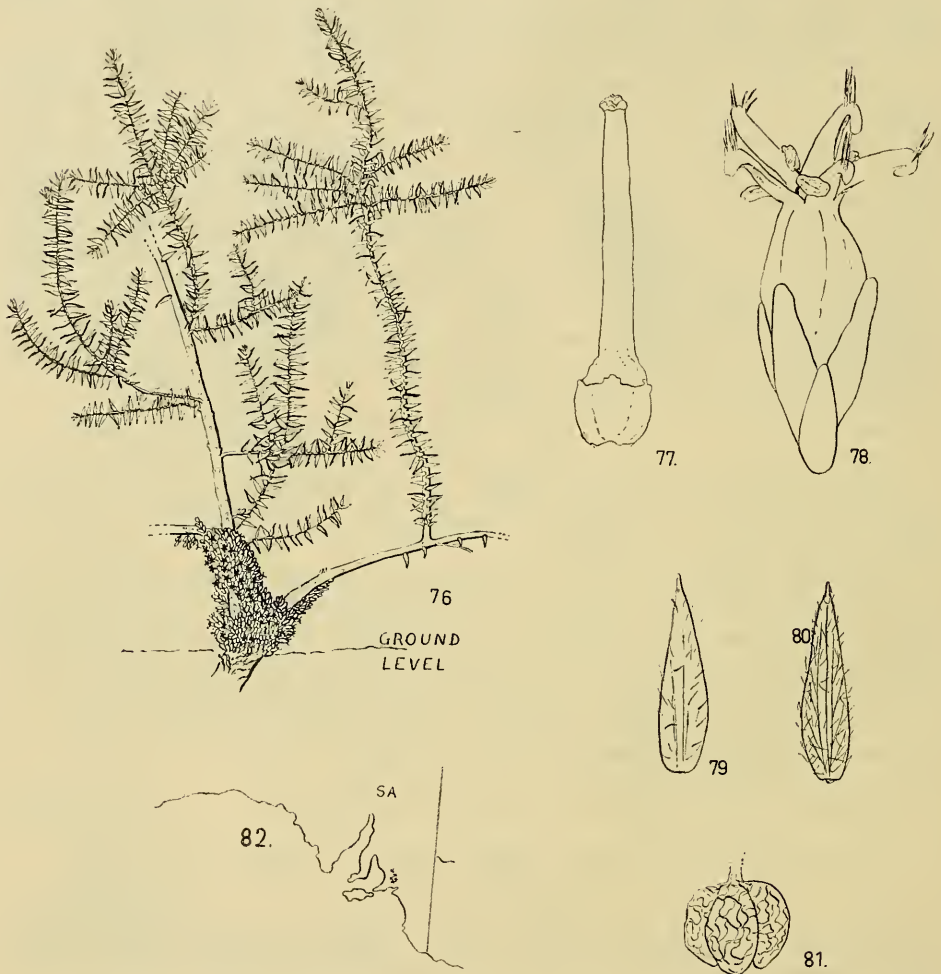
12. ACROTRICHE FASCICULIFLORA (Regel) Benth., *Fl. Austral.*, iv: 229 (1869).
(Text-figs 76-82.)

Synonymy: *Froebelia fasciculiflora* Regel, *Gartenfl.*, i, t.18 (1852). *Acrotriche ramiflora* Sond. in *Linnaea*, xxvi: 251 (1854). *Styphelia ramiflora* (R.Br.) F. Muell., *Fragm. Phytog.*, vi: 44 (1867). *Styphelia fasciculiflora* (Regel) F. Muell., *Fragm.*, 8: 55 (1873).

Hirsute rigid shrub up to 1 m. high. *Leaves* lanceolate, thin, spreading at right angles to the stem, 7-11 mm. long, 2-4 mm. broad, with an attenuate mucronate tip 0.8 mm. long, margins recurved; long hairs on upper surface; on lower surface a few hairs scattered amongst short microscopic hairs, found between the veins. *Inflorescence*: Flowers in thick clusters crowded at the base of the stem forming a mass 4-5 cm. long; spikes contain 8-16 flowers. *Bracteoles* lanceolate, reddish, 2-3 mm. long, 1.5 mm. broad. *Sepals* reddish, lanceolate, obtuse, a few hairs near the apex. *Corolla*-tube 4-5 mm. long, inflated, lobes 2-3 mm. long, tips of lobes much reflexed and thickened; a few short hairs borne at the back of the lobes; hairs at throat arising from an oblong shaped pad or cushion. *Stamens*: Anthers oblong, pale orange, 1.5 mm. long. *Ovary* lobed, pinkish, 1-1.2 mm. diameter, 1-1.2 mm. long, 3-5-celled; glabrous, a lobed nectary 0.5-0.8 mm. long covers the proximal half. *Style* straight, 3.5-6 mm. long, the globose stigma sometimes slightly lobed. *Fruit* depressed-globular, pink, splitting on pressure to form 3-5 outlets, 2-3 mm. diameter, 2-2.5 mm. long; style inserted.

Range: Localized to the dry sclerophyll forest of the Mt. Lofty Ranges. South Australia.

Specimens Examined.—SOUTH AUSTRALIA: Mt. Lofty, 10.1955, R. M. Carail (AD 95814022); Mt. Lofty, 3.6.1939, E. H. Ising (AD 95813095); Mt. Lofty Range, 8.1950, F. v.



Figs 76-82.—*Acrotriche fasciculiflora*. 76, Habit $\times 0.25$; 77, pistil $\times 9.5$; 78, flower $\times 5.5$; 79, upper surface of the leaf $\times 2.5$; 80, lower surface of the leaf $\times 2.5$; 81, fruit $\times 5.5$; 82, distribution.

Mueller (MEL); Mt. Lofty, "shrub 1-3 feet, flowers at ground level, corolla inflated, pale pink near the tip, calyx reddish", 24.8.1958, B. Paterson (MEL, NSW); between Stirling West and Crafers, 17.8.1957, H. Eichler 13910 (AD 95813071); National Park, 1954, J. B. Cleland (AD 95815016); National Park, 1953, J. B. Cleland (AD 95815014); Mylor, 26.8.1958, B. R. Paterson (BRI).

The corolla-tubes are inflated and are half-filled with a thin honey.

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